November 2016

Veterinary Services Staff

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Wildlife Biologist: Cole Hansen

Biologist: Sam Lockwood

Wildlife Health Laboratory

Brucellosis Surveillance

Brucellosis surveillance of hunter harvested elk is also in full swing. Since the beginning of the season, 544 blood samples have been received so far, with 410 of those (75%) being suitable for testing. All samples have been analyzed for brucellosis and no positives have been identified outside of the known endemic area. Positive samples so far this year have come from elk hunt areas 40, 49, 61, 63, 66, and 67.

CWD Surveillance

Surveillance for CWD in the state's deer, elk, and moose populations is also underway. So far this hunting season, 1645 CWD samples have been submitted to the laboratory, of those 1488 were from hunter-killed animals (85 positives) 65 from targeted animals (animals showing signs of CWD, and 12 of those were positive), and 100 from road-killed animals (4 positives). Two new deer hunt areas have been identified so far this year; hunt area 7 near Newcastle where a doe mule deer was harvested on October 1st, and hunt area 128, where a buck mule deer was harvested about 12 miles north of Dubois on October 8th.

Herd Health Surveillance in Bighorn Sheep:

Hally joined Biologist Greg Anderson, Rebecca Burton, Karen Sullivan of the National Bighorn Sheep Interpretive Center, Bill Sincavage, and other interested landowners to immobilize and sample bighorn sheep from the Badlands herd near Dubois. The Badlands herd has suffered at least one significant all age die-off in the past 20 years, but the herd is starting to rebound over the past several years, making it an important research herd to further our understanding of respiratory disease in this species. We have had limited opportunity to sample this herd over the past couple of years, so when the sheep made themselves available near the road and the landowners gave their blessing, we jumped at the chance. The sheep soon figured out our plans and stayed just out of a comfortable darting distance, which limited our success. Nonetheless, three sheep were immobilized and sampled for respiratory pathogens over the two day operation, bringing the total to eight sheep sampled over the past two years.

Greg Anderson darts a bighorn sheep in the Badlands herd near Dubois.

Personnel collect samples from a "cliff side" bighorn sheep in the Badlands near Dubois.

Photos by Bill Sincavage.

Repaired water gap in sheep pasture.

New floor coating in our sheep handling facility.

Fencing

Greetings from Sybille canyon! This month has been a busy one with multiple projects in the works. We are still in the process of fixing the last few sections of fence that were damaged during flooding this past spring. This month, we fixed the water gap in our new sheep pasture. This was especially challenging because we had to come up with new ideas on how to let high water and debris through but also keep animals from getting out or in. While having the creek flow through our facility creates a nice natural environment for the animals, it brings many fencing challenges along with it. This particular section of fence was completely bogged down from debris during flooding which ultimately resulted in destruction of the fence.

Sheep Facility Upgrade

While our sheep facility is officially complete, we are still in the process of working out small details to improve its functionality. This month we applied a new floor coating in the facility. The previous coating was starting to peel up under the force of the pressure washer we use to clean the facility after handling sheep. Hopefully this new coating will better withstand the rigors of an animal handling building.

Concrete Stabilization

We had Concrete Stabilization Technologies, Inc. come out to level the floors in our feed and equipment shed. Over time, the floors had started to settle and crack and there was a lot of open space between the concrete and the ground under it. Their technicians sprayed closed cell polymer foam in the gaps and were able to lift the concrete up and make it level once again. It was an incredible process to watch and we were able to drive equipment on it again by the time they left.

Elk Biopsies

This month we sedated our Chronic Wasting Disease (CWD) vaccine study elk for sample collection and rectal biopsies and we were able to combine this with a training opportunity. The Wisconsin DNR is gearing up to start a large scale CWD study in white-tailed deer. We were able to provide their wildlife veterinarian and deer biologist with training in collection of rectal biopsies so they can utilize this sampling method in their upcoming study. While maintaining a captive wildlife facility can be challenging, the benefit of this facility both to our own agency as well as to other agencies across the country is immeasurable. Not only are we able to conduct research to improve management of wildlife in our state, but we are able to provide crucial training in wildlife management and sampling techniques for wildlife managers across the country.

Mary assists Wisconsin Wildlife Veterinarian in collecting a biopsy from a sedated elk while Cole and Sam collect blood and monitor her vital signs.

Mary provides oxygen to a sedated elk during sampling.

Wildlife Necropsy Summary

Seven diagnostic cases were finalized in October: We also received eight mule deer this month. These cases are still pending results.

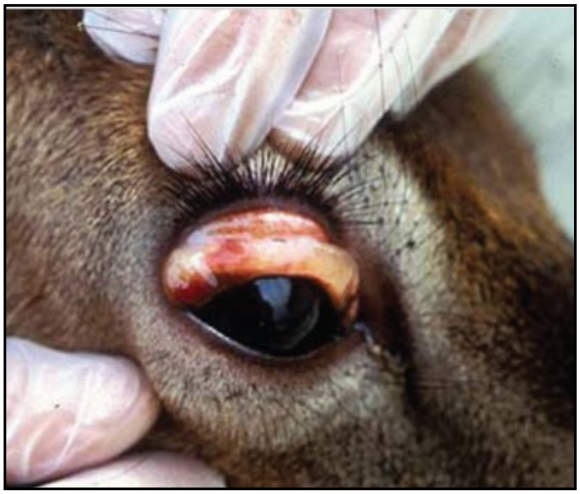
Species	Date Received	County	Diagnosis
Cooper's Hawk	9/20/2016	Sheridan	Pneumonia
Cottontail Rabbit	10/12/2016	Albany	Trauma
Mule Deer	8/29/2016	Converse	Bronchopneumonia
Pronghorn	10/7/2016	Goshen	Bluetongue virus
Great Horned Owl	9/21/2016	Natrona	Undetermined
Short-eared Owl	9/6/2016	OS/UT	Trauma
Short-eared Owl	8/31/2016	OS/UT	Trauma

Wildlife Disease of the Month—Epizootic Hemorrhagic Disease and Bluetongue

After diagnosing epizootic hemorrhagic disease in two pronghorn fawns this month (one near Worland, and another near Torrington), we decided this would be a timely topic for our Disease of the Month. Although both diseases occur in the State, epizootic hemorrhagic disease (EHDV) is far more common than bluetongue (BTV), and both viruses are known to cause disease in domestic livestock. In Wyoming and the Rocky Mountain west, this viral disease is seasonal, occurring in late summer to early fall (corresponding with the presence of arthropod vectors), and tends to occur in large outbreaks causing high morbidity (large number of infected animals) and mortality (may be in the tens, hundreds, or thousands) in affected populations. Susceptible wildlife hosts include pronghorn, white-tailed deer, mule deer, bighorn sheep, elk, bison, and probably moose and mountain goats.

Pronghorn dying from EHD/BT may show no apparent signs of illness. Carcasses are often found near water sources and there may be many carcasses

Outbreaks of hemorrhagic disease tend to occur at lower elevations (usually < 7,000 ft) and are observed at fairly predictable 4-7 year cycles, with smaller disease events and sometimes no detectable disease events in intervening years. This disease is transmitted by arthropod vectors, the most important being midges of the genus *Culicoides*, but other blood-feeding arthropods, including mosquitoes, may play some role in transmission.



Common lesions include reddening of the conjunctiva.

Animals with hemorrhagic disease are often are found dead without any evidence or history of illness and are commonly found near water. Animals that die soon after infection (acute) tend to have swelling and red-dening of the conjunctiva (around the eyes), swelling of the tongue (and sometimes tissues of the head and neck), and prominent pulmonary edema (fluid in the lungs). There may also be erosions or ulcers in the mouth (including on the tongue and dental pad) and in the stomach chambers (rumen and reticulum especially).

But not every animal that becomes infected quickly dies of the disease. Although uncommon, some animals develop a chronic form that may manifest as anorexia, prolonged recumbency ("downer" animals), loss of awareness of surroundings, emaciation, abnormal or arrested testicular development, and antler malformations. Foot problems in chronically infected animals are common, and may cause growth interruptions of the hooves, deformed or overgrown hooves, or sloughed hoof walls. Clinical signs and lesions in chronically infected animals vary depending on the severity of the infection and how long the animal survives with the disease.